

ever deposits its eggs on an animal, except it be the victim of a running sore; but at the period alluded to above, it appeared that there was scarcely animal food enough to feed the maggots of this numerous host. It is but once within my recollection that I have witnessed this phenomenon, and neither before nor since have I heard of such ravages of the green fly. Why they should have existed in such incredible numbers at the time referred to is a question not to be easily answered."

### EXTRACTS FROM CORRESPONDENCE.

[We shall publish in this Department such extracts from the letters of our correspondents as contain entomological facts worthy to be recorded, on account either of their scientific or of their practical importance. We hope our readers will contribute each their several mites towards the general fund; and in case they are not perfectly certain of the names of the insects, the peculiarities of which are to be mentioned, will send specimens along in order that each species may be duly identified.]

#### A NEW CABBAGE WORM.

I have something new. It is a new Cabbage worm, the larva of *Pionca* [*Orobena*] *rimosalis* Guen., which appeared late the past season, remaining on the cabbages till toward the end of November. It is very destructive, doing as much injury to my cabbages after it appeared as the imported Cabbage worm (*Pieris rapæ*) which has been very destructive here this season. The larva, when full grown, is six- or seventenths of an inch long (a 16-legged Pyralid larva); slender, slightly flattened; head shining greenish-yellow; dorsal portion of the body down to the breathing pores purplish-brown; this portion marked with numerous transverse whitish lines, two or three to a segment; a narrow, pale yellow line along the region of the stigmata; underside pale green. In the breeding cages they went down to the soil, but not into it, to pupate; forming a slight, regularly shaped, oval cocoon, thickly covered over with sand.

Miss Middleton's record shows as follows: "Went into the pupa state September 12th, 13th, and 14th; moths appeared 16th to 22d, and on to Oct. 1st."

After this there was another brood of worms, my description having been taken from living specimens, Nov. 21st.

The eggs I have not seen, but from the fact that the young feed somewhat together (though not really in companies) I presume a number are laid together.

These worms eat, as a general thing,

elongate oval holes in the leaves, gradually extending them until nothing but the larger veins remain.

They also bore directly into the heads, to the depth of, or rather through three or four leaves; a habit, so far as my experience goes, wrongly ascribed to the larva of *P. rapæ*, which will seldom eat through even one leaf of a solid head until it is at least slightly loosened.

Lime, ashes, brine, salt, elder decoction, and lye as strong as the cabbages can bear, and other substances tried, have even less effect upon them than on the imported cabbage worm. The lye, fresh made, of strong ashes, did more good than anything else tried.

I have ascertained that some varieties of the cabbage suffer much less from *P. rapæ* than others, and that bringing them forward two or three weeks earlier than usual so as to have the heads pretty well formed before full brood appears, is also an excellent plan to counteract them.

CYRUS THOMAS, Carbondale, Ill.

[This is the first instance which has come to our knowledge, of *Pionca rimosalis* injuring cabbage. It is interesting, as illustrating the unity of habit in the genus which essentially feeds on *Crucifera*. The larva *P. forficalis* L., is very destructive to cabbages in Europe, working very much as Prof. Thomas has described in the case of *rimosalis*.—Ed.]

### ANSWERS TO CORRESPONDENTS.

[We hope to make this one of the most interesting and instructive departments of the ENTOMOLOGIST. All inquiries about insects, injurious or otherwise, should be accompanied by specimens, the more the better. Such specimens, if dead, should be packed in some soft material, as cotton or wool, and inclosed in some stout tin or wooden box. They will come by mail for one cent per ounce. INSECTS SHOULD NEVER BE ENCLOSED LOOSE IN THE LETTER.]

Whenever possible, larvæ (*i. e.*, grubs, caterpillars, maggots, etc.) should be packed alive, in some tight tin box—the tighter the better, as air-holes are not needed—along with a supply of their appropriate food sufficient to last them on their journey; otherwise they generally die on the road and shrivel up. If dead when sent, they should be packed in cotton moistened with alcohol. Send as full an account as possible of the habits of the insect respecting which you desire information; for example, what plant or plants it infests; whether it destroys the leaves, the buds, the twigs, or the stem; how long it has been known to you; what amount of damage it has done, etc. Such particulars are often not only of high scientific interest but of great practical importance.]

**Borers in Black Ash—Fall Web Worm—Apple Tree Insects**—I have this day expressed a box of Black Ash wood and the worms found therein. [1.] Also a tent of leaf-worm that has long infested the Ash of western New York. They have sometimes been so numerous as to defoliate trees before autumn. [2.] The enclosed apples show marks of the so-called gimlet-worm, which attacks full grown apples. It is quite distinct from the Codling Moth; is a comparative new-comer, and is fast increasing. [3.] The small

box contains eggs of an orchard insect first observed here last year. They are deposited on the bark near the forks, and number from two to twenty per tree. I called attention to them at the last winter meeting of the Western New York Horticultural Society; but one member had observed them. They are deposited in early autumn to hatch in spring, but this fall has been so exceptionally warm up to date that you will see that many of the eggs have hatched. I have not seen or recognized the matured insect. What are they, friend or foe? [4.]

Scottsville, N. Y.

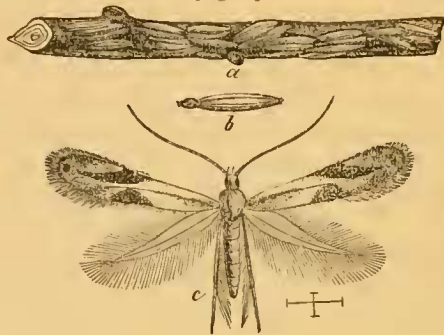
SHELBY REED.

[1.] The borer that so badly affects the roots, and which is reported to be absolutely killing out the Black Ash trees in parts of New York, belongs to the *Cerambycidae* or long-horned beetles. The species cannot, however, be determined until it is reared to the perfect state, as none of the writers on the insects of New York mention any beetle larva thus affecting this tree. The only ash-borer mentioned by entomologists is a Lepidopterous insect (*Trochilium denudatum*). [2.] The webs or tents so common upon that tree are those of the Fall web-worm (*Hyphantria textor*); it is also prevalent on many other kinds of trees. It has been particularly abundant in New York State the present year. [3.] We found nothing in the apples sent but a dead specimen of the ordinary apple-worm (*Carpocapsa pomonella*). We shall be glad, therefore, to get other bored apples, so as to learn the real nature of what you call the "gimlet worm." [4.] The supposed eggs upon the bark of your orchard trees are in reality the cocoons of the Apple-leaf Bucculatrix (*Bucculatrix pomofoliella* Clemens). It is found upon apple trees in most of the States where apples are grown.

The little worm that spins these cocoons feeds externally on the leaf, being quite active, and letting itself down by a web when disturbed. It measures about one-half inch in length when full-grown, and is of a dark green color, with the joints of the body swollen so as to look like a series of beads. The principal damage is done in the month of September. The pupa, which is of a dark brown color, works its way partly out of the cocoon and gives forth the moth in spring. The female moth at once lays her eggs on the tender leaves, the worms which hatch therefrom spinning up in midsummer. There are, therefore, two annual broods. As stated in the fourth Report on the Insects of Missouri, the great peculiarity of this insect is its habit of forming its little ribbed cocoon in company on the bark—a habit which at once gives us the mastery over it; for as the pupa remains in the cocoon all through the winter, we can make war upon it at any time during that season. When the insect is abundant these cocoons will absolutely cover the smaller twigs in the manner shown in the accompanying figure, and they will be found even on

the larger branches and trunk. Anything applied to the tree with the object of killing these pupæ must be of an oily nature, so as to readily soak through the cocoon. We have experimentally proved that an application of kerosene oil is death to them, and though we have had no opportunity of testing it on an extensive scale, we have no hesitancy in advising its use, or that of linseed

[Fig. 6.]



APPLE-LEAF BUCCULATRIX.—a, twig covered with cocoons; b, cocoon enlarged; c, moth enlarged; nat. size in hair-line (after Riley).

oil. Alkalies might also be tried. The best time to apply the remedy in your locality is April, and we advise no delay beyond that month, as the moths begin to issue soon after tree-growth actively recommences. Apply the kerosene in diluted form by stirring in hot soap-suds, and spraying upon the trees by means of a force-pump and atomizer—the tree, if badly infested, to be first vigorously pruned.—C. V. R. in *Land and Home*.

**Skippers injuring smoked Hams.**—The smoked hams cured in Peoria suffer much from the ravages of the enclosed insect. One firm lost over two thousand dollars from this cause last year. When the hams are taken from the pickle and smoked, they are hung in a two-story room and left forty-eight hours in a smoke of sawdust. This is during July and August. During this time the fire must be replenished, and by opening the door a strong current of air is formed, which it is thought forces the flies in the smoke-house, and the eggs are laid at that time. When they are taken from the smoke-house it is after night and in a dimly lighted room, only enough are taken out to supply the men employed to cover them with paper and canvas. This is quickly done, and then the whole covering of the ham is immersed in a solution of what they call yellow glue. The seams are very firmly fastened and glued, the two thicknesses being ample protection; but when many of the bags are opened they present a loathsome sight. The animal is killed in cold weather and the hams remain under brine until smoked. Can you suggest any thing as a remedy? Do you believe the eggs are laid in the smoke-house or the flies encased in the hams? The distilleries are in the neighborhood, and perhaps cause a greater number of flies.

E. A. S., Peoria, Ills.

The insect in question is what is properly known as the "Skipper," (*Piophilha casei* L.)